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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/611,418	06/30/2003	Dennis R. McKean	HSJ9-2003-0022US1	1933

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EXAMINER	
GOFF II, JOHN L	

ART UNIT	PAPER NUMBER
1791	

MAIL DATE	DELIVERY MODE
11/14/2008	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/611,418	MCKEAN ET AL.	
	Examiner	Art Unit	
	John L. Goff	1791	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *12 August 2008*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-35 and 37-39* is/are pending in the application.

4a) Of the above claim(s) *1-21,30 and 31* is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *22-29,32-35 and 37-39* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *30 June 2003* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

1. This action is in response to the amendment filed on 8/12/08.

2. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

Claim Rejections - 35 USC § 103

3. Claims 22-29, 32-34, and 37-39 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kurdi et al. (U.S. Patent 5,932,113) in view of Mandell (U.S. Patent 3,335,088) and Homan et al. (U.S. Patent 4,347,336), Lee et al. (U.S. Patent 6,124,407), or Wong (U.S. Patent 5,051,275).

Kurdi discloses a method for forming a slider assembly comprising arranging a plurality of sliders each having a surface such that the surfaces are coplanar to each other and each free from encapsulant, placing the plurality of sliders on a laminate of a flexible tape and an adhesive such that slider surfaces contact the adhesive, dispensing a resin/encapsulant fluid in a manner effective to fill small gaps or recesses between the sliders without contacting the coplanar slider surfaces, and subjecting the dispensed fluid to conditions effective for the fluid to crosslink and/or polymerize and form a readily debondable solid resin/encapsulant (Column 5, lines 33-67 and Column 6, lines 1-67 and Column 7, lines 1-12 and Column 8, lines 33-35). Kurdi does not teach the removable/debondable resin is an organosilicon material resin that is cured at a temperature of about 150 °C to about 200 °C. However, Kurdi is not limited to any particular resin and suggest a wide range of common resins may be used including acrylic, epoxy, etc.

(Column 6, lines 42-60). It is well taken in the art of removable/debondable resins used for example such as in encapsulating compounds that acrylic, epoxy, and silicon elastomer based resins are functionally equivalent as shown by Mandell (Column 1, lines 9-16 and Column 6, lines 6-18). Absent any unexpected results, it would have been obvious to one of ordinary skill in the art at the time the invention was made to use as the removable/debondable resin in Kurdi a silicon elastomer material which was well taken as functionally equivalent to acrylic and epoxy in the art of removable/debondable resins as shown by Mandell. As to a specific silicone elastomer comprising an organosilicon material and curing the resin at a temperature of about 150 °C to about 200 °C, Homan, Lee, and Wong '275 are each exemplary of silicon elastomer resins comprising an organosilicon material used as encapsulants such as for electronics including semiconductor substrates wherein each resin cures at 150 °C the resins having a low viscosity to flow easily into small spaces (Column 1, lines 8-19 and Column 6, lines 55-68 and Column 7, lines 14-38 of Wong and Column 1, lines 7-34 and Column 4, lines 3-8 and Column 13, lines 29-32 of Lee and Column 1, lines 7-10 and Column 2, lines 58-66 and Column 3, lines 4-13 and Column 4, lines 3-23 or Wong '275). It would have been obvious to one of ordinary skill in the art at the time the invention was made to use as the silicon elastomer resin taught by Kurdi as modified by Mandell any of the silicon elastomer resins including organosilicon material shown by Homan, Lee, or Wong '275 which have a low viscosity to flow easily into small places wherein the curing temperature used would have been any of the curing temperatures within the ranges suggested by Homan, Lee, or Wong '275 such as 150 °C.

Regarding claim 24, as the adhesive taught by Kurdi is described as not effected by the resin fluid the adhesive is considered resistant or impervious to solvation by the resin fluid (Column 5, lines 39-45).

Regarding claims 25-27, as Kurdi teaches the initial viscosity of the resin fluid is as low as 100 centistokes (Column 7, lines 1-2) it would have been obvious to one of ordinary skill in the art at the time the invention was made to formulate the low viscosity encapsulant in Kurdi as modified by Mandell and Homan, Lee, or Wong '275 to have a viscosity of 100 centistokes.

Regarding claim 28, at least Wong '275 removes solvent from the resin fluid during cure (Column 4, lines 3-18).

Regarding claim 32, there is no disclosure in Kurdi as modified by Mandell and Homan, Lee, or Wong '275 that the solid resin/encapsulant substantially outgases under vacuum, and the organosilicon material solid resin/encapsulant is consistent and in agreement with the solid encapsulant disclosed and claimed by applicants, such that the solid resin/encapsulant taught by Kurdi as modified by Mandell and Homan, Lee, or Wong '275 is considered to not substantially outgas under vacuum.

Regarding claims 33 and 38, the silicon elastomers taught by Kurdi as modified by Mandell and Homan, Lee, or Wong '275 are polymerized *in situ* from organosilicon prepolymers, e.g. siloxanes (Column 2, lines 20-60 of Homan, Column 4, lines 53-67 of Lee, and Column 3, lines 20-25 of Wong '275).

Regarding claim 34, the organosilicon materials taught by Kurdi as modified by Mandell and Homan, Lee, or Wong '275 comprise phenyl substituents (Column 2, lines 20-60 of Homan, Column 4, lines 53-67 of Lee, and Column 3, lines 20-25 of Wong '275).

Regarding claim 37, Kurdi teaches the resins/encapsulants are debonded by means of a solvent comprising NMP, i.e. N-methylpyrrolidinone (Column 8, lines 33-35) such that it would have been obvious to one of ordinary skill in the art at the time the invention was made to debond the solid resins/encapsulants taught by Kurdi as modified by Mandell and Homan, Lee, or Wong '275 using the solvent.

Regarding claim 39, the coplanar surface of the sliders taught by Kurdi are free from resin/encapsulant.

4. Claim 35 is rejected under 35 U.S.C. 103(a) as being unpatentable over Kurdi, Mandell, and Lee or Wong '275 as applied to claims 22-27, 29, 32, 33, 37, and 39 above, and further in view of Joffre et al. (U.S. Patent 5,840,800) and Wong '562 (U.S. Patent 4,564,562).

Kurdi, Mandell, and Lee or Wong '275 as applied above teach all of the limitations in claim 35 except for a specific teaching of using a polymeric catalyst containing pendant amino-functionalities with the resin/encapsulant, it being noted both Lee and Wong '275 are not limited to any particular catalyst and suggests a platinum catalyst (Column 11, lines 18-25 of Lee and Column 2, lines 58-68 of Wong '275). It is well taken in the art of organosilicon material resins/encapsulants such as those suggested by Lee or Wong '275 that metallic and amino based catalysts are functionally equivalent as shown by Joffre (Column 21, lines 16-21). Absent any unexpected results, it would have been obvious to one of ordinary skill in the art at the time the invention was made to use as the catalyst in Kurdi as modified by Mandell and Lee or Wong '275 an amino based catalyst which was well taken as functionally equivalent to metallic catalysts as shown by Joffre. As to the amino based catalyst having pendant amino-functionalities, Wong '562 disclose an organosilicon material resin/encapsulant including a

dialkylaminoalkylsiloxane catalyst, which is considered a polymeric catalyst containing pendant amino-functionalities, which is used as the catalyst because it reduces the curing temperature of the resin/encapsulant (Column 1, lines 34-41 and Column 2, lines 28-31). It would have been obvious to one of ordinary skill in the art at the time the invention was made to use as the amino based catalyst taught by Kurdi et al. as modified by Mandell, Lee or Wong '275, and Joffre the polymeric catalyst containing pendant amino-functionalities taught by Wong '562 which reduces the curing temperature of the resin/encapsulant.

Response to Arguments

5. Applicant's arguments filed 8/12/08 have been fully considered but they are not persuasive.

Applicants amendment has overcome the previous 35 U.S.C. 112 rejections.

Applicants argue, "For instance, one of skill in the art would not employ hydrofluoric acid, as disclosed in Mandell, to remove the resin from the surface of the slider disclosed in Kurdi. One would not do this for fear that the acid would degrade one or more of the components of the slider thereby damaging the slider and rendering it inoperable. Accordingly, if a silicone elastomer were substituted as the resin employed in Kurdi, one would have to employ a means other than hydrofluoric acid for removing that resin and because of this, it would be unpredictable if such other means would be effective in removing the silicone elastomer.".

This argument is not supported by Kurdi as there is no disclosure in Kurdi teaching away from using hydrofluoric acid to remove the resin. Further, Mandell teaches parts covered with

the removing composition are not permitted to stand for long in moist air to prevent the composition from attacking the substrates.

Applicants further argue, "Thus, in this regard the resins disclosed in Kurdi are not in fact functional equivalents to the presently claimed organosilicon material encapsulants, and contrary to the assertion of the Office, it is not "well taken in the art of removable/debondable encapsulants that acrylic, epoxy, and silicon elastomer based encapsulants are functionally equivalent. Additionally, to the extent that the Office is taking Official Notice of the alleged equivalence of epoxy resins and organosilicon material encapsulants, the Applicants would like to draw the attention of the Office to *In re Ahlert,* wherein it was determined that it would not be appropriate for the examiner to take official notice of facts without citing a prior art reference where the facts asserted to be well known are not capable of *instant* and *unquestionable* demonstration as being well-known (emphasis added). See *In re Ahlert,* 424 F.2d at 1091, 165 USPQ at 420-21.".

The examiner is not taking official notice. Mandell discloses in column 6, lines 6-18 "It will be understood that the method of the present invention is capable from removing from surfaces, adherent resins of a wide variety of chemical compositions, including the great majority of commercially available coating materials, foams, encapsulating compounds, and glues. Because of their wide commercial use, and the ability of the compositions of the present invention to readily remove them, resins of the following compositions are especially susceptible to removal by practice of the present invention: epoxies, urethanes, phenolics, polycarbonates, polyesters, acrylics, neoprene, silicon elastomers, nylons, polyvinyl chloride, polyvinyl alcohols, and copolymers of the above" (Emphasis added). Thus, Mandell discloses that in the use of

removable/debondable resins (encapsulating compounds being nothing more than resins) that acrylic, epoxy, and silicon elastomer based resins are functionally equivalent. That is to say functionally equivalent in terms of their removable/debondable properties, it being noted that as acrylic, epoxy, and silicon elastomers are all resins each is clearly an encapsulating compound wherein Homan, Lee, and Wong '275 evidence specific silicon elastomer resins used as encapsulating compounds.

Applicants further argue, "The Applicants contend that with respect to the encapsulants disclosed in all of Homan, Lee or Wong, the cited references all teach away from the rejected claims because these cited references all teach a permanent "non-debondable" encapsulant.".

None of Homan, Lee, or Wong '275 discloses the silicon elastomer resins/encapsulants are permanent and non-debondable. Further, Mandell teaches that such materials are debondable.

Conclusion

6. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37

CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to **John L. Goff** whose telephone number is **(571)272-1216**. The examiner can normally be reached on M-F (7:15 AM - 3:45 PM).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Richard Crispino can be reached on (571) 272-1226. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/John L. Goff/
Primary Examiner, Art Unit 1791